APPENDIX I

Datasheet

GLINT Delta breaks the 3D geometry bottleneck by offloading 3D geometry pipeline processing into a hardwired 100 MFLOP processor. Designed as a companion processor to 3Dlabs' GLINT and PERMEDIA chips, GLINT Delta typically doubles a system's 3D performance by reducing CPU loading by up to 70% and halving the PCI bandwidth required.

GLINT Delta performs the slope and setup in high precision floating point for any 3Dlabs rendering device, including as <u>GLINT 300SX</u>, and <u>PERMEDIA</u>. The setup calculations are general purpose and may be used to accelerate any 3D API, including <u>OpenGL</u>, <u>Direct3D</u>, <u>AutoDesk's Heidi and Apple's QuickDraw 3D</u>.

By performing high precision high precision floating point to fixed point conversion, GLINT Delta allows the software geometry pipeline to pass vertex information in standard floating point format - avoiding time consuming data conversions which can bottleneck 3D system performance.

GLINT Delta operates as a multi-function PCI adaptor and supports multiple graphics devices on a single board, e.g. GLINT + AVGA or multiple GLINTs for scaleable rendering performance.

3D Geometry Processor Features

- Hardware and software compatible with GLINT 300SX and PERMEDIA
 - easy design in
- Slope and set-up parameter calculation
 - no slope information need to be passed to the graphics sub-system, offloads work from CPU and reduces PCI load
- High precision computation
 - increases visual quality
- Accepts data in floating or fixed point formats
 - avoids time consuming data conversions
- Vertex cache to re-use parameters
 - minimizes data transfers and enables efficient mesh processing
- Operates as multi-function PCI adaptor
 - multiple graphics devices on one board, e.g. GLINT 300SX + onboard VGA or multiple



- GLINTs for increased rendering speed
- PCI Master capability with full DMA support
 - fast PCI transfer of commands and data
- Big-endian processor support
 - Apple PowerMac compatible with no glue required
- Texture normalize operation
 - for maximum texture mapping accuracy
- Data broadcast capability
 - efficient communication with multiple GLINTs
- Hardware handshake with GLINT 300SX or PERMEDIA
 - reduced contention on secondary PCI bus
- Full access to the 8514A extended registers on AVGA devices
 - complete compatibility with existing AVGA device drivers

Technical Overview

A Complete Solution

GLINT Delta continues 3Dlabs' award winning family of graphics processors. All our devices offer customers a total solution, combining hardware acceleration with unequaled software support and design-in assistance.

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